

Claims

1. A machine (100) for the treatment of pharmaceutical products (P) comprising a pan (2) that revolves about an axis of rotation (X) and a dispensing unit (3) designed to disperse a coating material inside the pan (2) over a mass (M) of the products (P) located in the pan (2); the machine (100) being characterised in that the pan (2) has an opening (7) for feeding the products to be treated (P) into the pan (2), and an opening (8) for feeding the products (PT) already treated with the coating material out of the pan, the infeed opening (7) and the outfeed opening (8) being separate and independent of each other; a portion (K) of the inside surface of the pan (2) being equipped with at least one helical flow regulating fin (4, 5, 6) designed to facilitate inflow (F3) of the products to be treated (P) into the pan (2) during the feeding of the products (P) into the pan (2) through the infeed opening (7) when the pan (2) itself revolves in a first direction of rotation (F1), and to cause outflow (F4) of the treated products (PT) from the pan (2) during the outfeed of the treated products (PT) from the pan (2) through the outfeed opening (8) when the pan (2) itself revolves in a second direction of rotation (F2), opposite to the first direction of rotation (F1).

2. The machine according to claim 1, characterised in that the infeed opening (7) in the pan (2) is located in a position above and to one side of the outfeed opening (8).

3. The machine according to claim 1 or 2, characterised in that the flow regulating fin (4, 5, 6) has a substantially cusped profile with a triangular cross section whose base is joined smoothly to the inside surface of the pan (2).

4. The machine according to any of the foregoing claims from 1 to 3, characterised in that at the outfeed opening (8) there is at least one chute-like guide element (10) that is joined smoothly to the profile of the fin (4, 5, 6).

5. The machine according to any of the foregoing claims from 1 to 4, characterised in that the flow regulating fins (4, 5, 6) on the portion (K) are equally spaced from each other.

5 6. The machine according to claims 4 and 5, characterised in that it comprises three chute-like guide elements (10) separated from each other by equal defined angular intervals (α), each element (10) being joined smoothly to the profile of a respective flow regulating fin (4; 5; 6).

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7. The machine according to claim 6, characterised in that the three guide elements (10) are separated from each other by angular intervals (α) of approximately 120°.

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8. The machine according to any of the foregoing claims from 1 to 7, characterised in that the infeed opening (7) comprises a conduit (11) for access from the outside, made on a protrusion (12) on the pan (2) and leading onto an inclined surface (13) that extends to an area close to the inside of the pan (2) and partially covers the outfeed opening (8).

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9. The machine according to any of the foregoing claims from 1 to 8, characterised in that the outfeed opening (8) comprises a tubular conduit (9) leading to the outside and made on a protrusion (12) of the pan (2).

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10. The machine according to claim 9, characterised in that the conduit (9) is equipped with a sealed shutoff valve (14).

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11. The machine according to any of the foregoing claims from 8 to 10, characterised in that the access conduit (11) is equipped with a sealed shutoff valve (15).

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12. The machine according to any of the foregoing claims from 1 to 11, characterised in that the infeed opening (7) and the outfeed opening (8) are connected to separate reservoirs (16, 17)

for feeding the product to be treated (P) and collecting the treated product (PT), respectively.